

REMARKS

Summary of the Amendment

Upon entry of the above amendment, claims 52-54 will have been amended and claims 55-62 will have been added. Accordingly, claims 1-62 will be pending with claims 1, 17, 26, 43 and 53-55 being in independent form.

Summary of the Official Action

In the instant Office Action, the Examiner reopened prosecution following the filing of an Appeal Brief. Accordingly, the Examiner objected to the drawings, the specification and the claims for asserted informalities. The Examiner also objected to the Amendment filed November 4, 2002 as introducing new matter. Next, the Examiner rejected claims 1-16, 20-42, 46-50, 53 and 54 as failing to comply with the written description requirement. The Examiner also rejected claims 1-16, 20-42, 46-50, 53 and 54 over the applied art of record. Finally, the Examiner indicated that claims 17-19 and 51 are allowed and that claims 43-45 and 52 contain allowable subject matter and would be allowable if amended to overcome the objection to claim 43. By the present amendment and remarks, Applicant submits that the objections and rejections are improper and respectfully request reconsideration of the outstanding Office Action and allowance of the present application.

Interview of November 19, 2003

Applicant appreciates the courtesy extended by Examiner Hug in the Interview of November 19, 2003. In that interview, Applicant's representative discussed, among other things, that the objections to the drawings, the disclosure and the claims were improper. Specifically, Applicant pointed out that Fig. 3a is clearly understood in view of various views shown in Fig. 3b. It was also pointed out that reference number 22 generally refers to the free end of the lamella and that it is not improper to characterize this feature more broadly and/or more narrowly with regard to the various embodiments. Finally, it was pointed out that the objection was improperly addressed to claim 43, when it should have been addressed to claim 52. In this regard, Applicant agreed with the objection to claim 52 and indicated that they would be amending this claim to address this objection. With regard to claims 53 and 54, it was noted that these claims are not substantial duplicates of claims 14 and 40 because claims 14 and 40 recite "at least one of" in describing the recited materials whereas claims 53 and 54 recite "one of" in describing the recited materials. In response, the Examiner agreed to reconsider these objections after reviewing Applicant's response to the instant Office Action.

Additionally, it was pointed out to the Examiner that the objection to the Amendment filed November 4, 2002 was improper because the chart shown in Appendix B of the Amendment filed November 4, 2002 demonstrated the inherent properties of the materials disclosed and claimed in the instant application. The Examiner agreed to reconsider this new

matter objection after reviewing Applicant's response to the instant Office Action.

Next, it was pointed out to the Examiner that the new matter/written description rejection under 35 U.S.C. 112, first paragraph, was improper because Applicant has full support in the original specification for the recited materials, because Applicant has provided the chart shown in Appendix B of the Amendment filed November 4, 2002 to demonstrate the inherent properties of the disclosed/claimed materials, and because Applicant is entitled to claim inherent features/properties of materials which are fully supported by the original specification. The Examiner agreed to reconsider this new matter/written description rejection after reviewing Applicant's response to the instant Office Action.

Additionally, it was pointed out to the Examiner that the obviousness rejection was improper because the Examiner has set forth no motivation for combining the teachings of the documents and that the Examiner was improperly using Applicant's disclosure for as a basis for making the asserted combination. The Examiner agreed to reconsider the prior art rejection after reviewing Applicant's response to the instant Office Action.

Finally, Applicant acknowledges the Examiner's indication that the claims would likely define over the applied documents if they were amended to recite that at least the free end of the lamella is made of a homogeneous high-performance polymer. Accordingly, as Applicant has presented claims 55 and 56 to substantially recite this feature, Applicant respectfully requests that at least claims 55 and 56 be indicated to be allowed. However, at

this time, Applicant is not amending claims 1, 26, 53 and 54 to recite this feature because Applicant believes that these claims currently define over the applied art of record.

Acknowledgment of Allowable Subject Matter

Applicant acknowledges and appreciates the Examiner's indication that claims 17-19 and 51 are allowed and that claims 43-45 and 52 contain allowable subject matter and would be allowable if written to overcome the objection to claim 43. Accordingly, as Applicant has demonstrated that the objection to claim 43 is improper, Applicant requests that claims 43-45 and 52 also be indicated to be allowed.

Traversal of Objection to the Drawings

The Examiner has objected to the drawings because Fig. 3a "shows modified forms of construction in the same view." Applicant respectfully traverses this objection.

Applicant notes that Fig. 3a would be clearly understood in view of various views shown in Fig. 3b. In this regard, the Examiner has agreed in the Interview that Fig. 3a would be clearly understood for which it shows in view of what is shown in Fig. 3b.

Applicant submits that one having ordinary skill in the art, having read the specification and reviewed the drawings, would clearly understand the invention and/or each of the recited and/or described features.

Accordingly, Applicant respectfully requests that this objection be withdrawn.

Traversal of Objection to the Amendment filed November 4, 2002

The Examiner has objected to the Amendment filed November 4, 2002 as introducing new matter in violation of 35 U.S.C. 132. Applicant respectfully traverses this objection.

As was pointed out in the Interview, the objection to the Amendment filed November 4, 2002 is improper because the chart shown in Appendix B of the Amendment filed November 4, 2002 demonstrates the inherent properties of the materials disclosed and claimed in the instant application.

The Examiner has acknowledged in the Office Action and in the Interview that Applicant has provided full support in the original specification for the recited materials. Moreover, the Examiner has also agreed in the Interview and in the instant Office Action that the chart describes the inherent properties of the disclosed/recited materials and that “the disclosure of these properties is not the basis of this new matter rejection.” Accordingly, Applicant submits that the introduction of such inherent features into the specification and claims cannot constitute new matter. This is because the inherent properties, like dictionary definitions, automatically and inherently form part of the original disclosure when Applicant describes elements which contain such inherent features/properties.

Thus, for example, if Applicant has disclosure in the specification with regard to a cylinder, the introduction of language describing the cylinder as having a diameter and a length would not constitute new matter as these features are inherent to a cylinder. In the same way, the known properties of the recited materials cannot be new matter as they are

known (as demonstrated by the chart in Appendix B of the November 4, 2002 Amendment) to be inherent to the materials.

Applicant also submits that the inherent properties of disclosed features would be available, and possibly even known, to one of ordinary skill in the art. On the other hand, this does not mean that the person of ordinary skill in the art would necessarily be motivated to make, e.g., the asserted combination of documents described in the obviousness rejection of the instant Office Action.

In support of the instant objection, the Examiner has asserted that the recited materials are not compared in the specification. The Examiner also essentially argued that Applicant therefore cannot choose to recite one material over another and/or indicate that one material is superior over another. Applicant respectfully disagrees. Applicant submits that he is free to narrow and/or broaden the claims in a manner which allows him to recite one or more fully supported materials (and/or properties thereof) over one or more other fully supported materials (and/or properties thereof). The fact that Applicant has used the term “greater than” in describing fully supported materials which are included and excluded (in the absence of one or more included materials) in the claims does not necessarily render the term “new matter”. This is especially true when this term is inherent from the inherent properties of the recited materials.

Applicant reminds the Examiner that support for, e.g., the feature “said at least one

high-performance polymer comprising at least one of a water absorption (DIN 53495) and a heat resistance (DIN 53461) greater than that of polysulphone (PSU)” can be found on, e.g., paragraph [0018] of the instant specification, which describes the following non-limiting recommended materials: polyphenylene sulphone (PPSU), polyether sulphone (PES), polyetherimide (PEI), and polysulphone (PSU). Moreover, the Examiner has acknowledged on page 4 of the instant Office Action that the properties of these materials are inherent.

Finally, Applicant reminds the Examiner that “the failure of the specification to specifically mention a limitation that later appears in the claims is not a fatal one when one skilled in the art would recognize upon reading the specification that the new language reflects what the specification shows has been invented.” See *All Dental Prodx, LLC v. Advantage Dental Products, Inc.*, 02-1107 (Fed. Cir. 2002) noting *Eiselstein v. Frank*, 52 F.3d 1035, 1039, 34 USPQ2d 1467, 1470 (Fed. Cir. 1995). A copy of the *All Dental Prodx* case is attached to this Amendment for the Examiner’s review and consideration.

Traversal of Objection to the Disclosure

The Examiner has objected to the disclosure because reference 22 describes the end of the lamella in various ways such as “structure less end region”, “end region”, “structured end” and “structured free end region”. Applicant respectfully traverses this objection.

As explained in the Interview, reference number 22 generally refers to the free end

of the lamella and that it is not improper to characterize this feature more broadly and/or more narrowly with regard to the various embodiments. As the Examiner noted in the Interview, reference number 22 is always described as an end of the lamella and that the use of further modifiers does not render the specification unclear.

Applicant submits that one having ordinary skill in the art, having read the specification in its current form, would clearly understand the invention and/or each of the recited and/or described features.

Accordingly, Applicant respectfully request that this objection be withdrawn.

Traversal of Objection to the Claims

The Examiner has objected to claims 43, 53 and 54 because of asserted informalities.

With regard to claim 43, the Examiner has noted in the Interview that this objection was improperly addressed to claim 43, when it should have been addressed to claim 52. In this regard, Applicant does not disagree with the objection to claim 52 and is herein amending this claim to address this objection.

With regard to claims 53 and 54, Applicant respectfully disagrees that these claims are substantial duplicates of claims 14 and 40. As explained in the Interview, claims 14 and 40 recite “at least one of” in describing the recited materials whereas claims 53 and 54 recite “one of” in describing the recited materials. Thus, it is submitted, and the Examiner has agreed in the Interview, that these claims are not substantial duplicates.

Accordingly, Applicant respectfully request that this objection be withdrawn.

Traversal of Rejection Under 35 U.S.C. § 112, first paragraph

The Examiner has rejected claims 1-16, 20-42, 46-50, 53 and 54 under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. Applicant respectfully traverses this rejection.

As was pointed out in the Interview and as explained above with regard to the new matter objection to the Amendment filed November 4, 2002, the claims as amended merely recite features which are inherent to fully disclosed features.

As explained above, support for features such as, e.g., “said at least one high-performance polymer comprising at least one of a water absorption (DIN 53495) and a heat resistance (DIN 53461) greater than that of polysulphone (PSU)” can be found on, e.g., paragraph [0018] of the instant specification, which describes the following non-limiting recommended materials: polyphenylene sulphone (PPSU), polyether sulphone (PES), polyetherimide (PEI), and polysulphone (PSU). Moreover, the Examiner has acknowledged on page 4 of the instant Office Action that the properties of these materials are inherent.

Thus, for the reasons indicated above with regard to objection to the Amendment filed November 4, 2002, Applicant submits that the introduction of such inherent features into the claims does not constitute new matter.

Accordingly, Applicant respectfully request that this objection be withdrawn.

Traversal of Rejection Under 35 U.S.C. § 103(a)

The Examiner has rejected claims 1-16, 20-42, 46-50, 53 and 54 under 35 U.S.C. 103(a) as being unpatentable over US patent 4,617,091 to RODAL in view of Applicant's Admitted Prior Art (AAPA) and further in view of US patent 5,553,381 to LEHTONEN.

The Examiner asserted that RODAL teaches all of the claimed features except for a lamella that includes a material having superior water absorption and heat resistance to polysulphone. The also acknowledged that RODAL teaches the use polysulphone but not a material that has at least one high-performance polymer comprising a heat resistance (DIN 53461) of at least greater than 120°C such as, e.g., polyphenylene sulphone (PPSU), polyether sulphone (PES), and polyetherimide (PEI). However, the Examiner asserted that Applicant has admitted that it is known that materials such as, e.g., polyphenylene sulphone (PPSU), polyether sulphone (PES), and polyetherimide (PEI) have the recited superior properties to that of polysulphone (PSU). Moreover, the Examiner explains that LEHTONEN teaches to use materials such as, e.g., polysulphone, (PSU), polyether sulphone (PES), and polyetherimide (PEI) as a coating for paper machine roll. Accordingly, the Examiner concluded that it would have been obvious to combine the teachings of these documents in order to render the invention obvious. On the other hand, other than asserting that such features would be well within the ordinary skill level in the art, the Examiner set forth no reason why one would be motivated to make the asserted combination of teachings.

Applicant submits that the rejection should be reversed at least for the following

reasons. First, the references themselves (RODAL, AAPA and LEHTONEN) fail to provide objective evidence supporting a conclusion of non-obviousness of the claimed subject matter. Second, there is no motivation to combine the teachings of the prior art references in the manner asserted by the Examiner.

Applicant submits that no proper combination of RODAL, AAPA, and LEHTONEN discloses or suggests: inter alia, a lamella formed of at least one high-performance polymer wherein *said at least one high-performance polymer comprises at least one of a water absorption (DIN 53495) and a heat resistance (DIN 53461) greater than that of polysulphone (PSU)*, thereby resulting in a lamella formed of a material having a high stability, high heat resistance, and good to very good resistance to at least one of alkaline solution and acid, as recited in independent claim 1; inter alia, *a lamella formed of at least one high-performance polymer having at least one of a water absorption (DIN 53495) and a heat resistance (DIN 53461) greater than that of polysulphone (PSU)*, whereby said at least one high-performance polymer results in a lamella having high stability, high heat resistance, and good to very good resistance to at least one of alkaline solution and acid, as recited independent claim 26; inter alia, *a lamella formed of at least one high-performance polymer comprising one of polyphenylene sulphone (PPSU), polyether sulphone (PES), and polyetherimide (PEI) and having at least one of a water absorption (DIN 53495) and a heat resistance (DIN 53461) greater than that of polysulphone (PSU)*, thereby resulting in a lamella formed of a material

having a high stability, high heat resistance, and good to very good resistance to at least one of alkaline solution and acid, as recited in independent claim 53; and inter alia, *a lamella formed of at least one high-performance polymer comprising one of polyphenylene sulphone (PPSU), polyether sulphone (PES), and polyetherimide (PEI) and having at least one of a water absorption (DIN 53495) and a heat resistance (DIN 53461) greater than that of polysulphone (PSU)*, wherein said at least one high-performance polymer results in a lamella having high stability, high heat resistance, and good to very good resistance to at least one of alkaline solution and acid, as recited in independent claim 54. These features are simply not taught or suggested either individually or by any proper combination of these documents.

The Examiner has acknowledged that RODAL lacks any disclosure to a lamella which is made of a material having the recited properties and/or which is made of *polyphenylene sulphone (PPSU), polyether sulphone (PES), or polyetherimide (PEI)*. Moreover, the Examiner acknowledges that RODAL specifically discloses using a polysulphone material in the lamella, i.e., a material which, in the absence of other recited materials, is specifically excluded by the above-noted claims.

Thus, it is clear that RODAL contains no disclosure or suggestion with regard to a lamella formed of at least one high-performance polymer wherein *said at least one high-performance polymer comprising at least one of a water absorption (DIN 53495) and a heat resistance (DIN 53461) greater than that of polysulphone (PSU)*, and/or a lamella formed

of at least one high-performance polymer having at least one of a water absorption (DIN 53495) and a heat resistance (DIN 53461) greater than that of polysulphone (PSU), and/or a lamella formed of at least one high-performance polymer comprising one of polyphenylene sulphone (PPSU), polyether sulphone (PES), and polyetherimide (PEI) and having at least one of a water absorption (DIN 53495) and a heat resistance (DIN 53461) greater than that of polysulphone (PSU), and/or a lamella formed of at least one high-performance polymer comprising one of polyphenylene sulphone (PPSU), polyether sulphone (PES), and polyetherimide (PEI) and having at least one of a water absorption (DIN 53495) and a heat resistance (DIN 53461) greater than that of polysulphone (PSU).

Applicant further notes that RODAL relates to a laminated or composite material lamella which, contrary to the invention, would result in a lamella made of several components - thereby rendering it expensive. On the other hand, Applicant has explained, on paragraph [0007] of the instant specification, that while composite materials (such as carbon fibers) are better, they are more expensive materials. In contrast to the disclosure of this document, and by way of background, Applicant has provided a lamella in which a better expense/effectiveness ratio results for all possible utilizations and so that the lamella better withstands different operating conditions (see paragraph [0009]).

Moreover, while Applicant does not dispute that the chart (i.e., AAPA) provided by Applicant discloses the properties of the recited materials, such disclosure broadly relates to

the known/inherent properties of high performance polymers and the Examiner has failed to demonstrate why one of ordinary skill in the art would combine the teachings of this chart with RODAL; especially since RODAL specifically teaches to use a polysulphone material in the lamella, i.e., a material which, in the absence of other recited materials, is specifically excluded by the above-noted claims.

Applicant submits that the AAPA similarly contains no disclosure or suggestion with regard to a lamella formed of at least one high-performance polymer wherein *said at least one high-performance polymer comprising at least one of a water absorption (DIN 53495) and a heat resistance (DIN 53461) greater than that of polysulphone (PSU), and/or a lamella formed of at least one high-performance polymer having at least one of a water absorption (DIN 53495) and a heat resistance (DIN 53461) greater than that of polysulphone (PSU), and/or a lamella formed of at least one high-performance polymer comprising one of polyphenylene sulphone (PPSU), polyether sulphone (PES), and polyetherimide (PEI) and having at least one of a water absorption (DIN 53495) and a heat resistance (DIN 53461) greater than that of polysulphone (PSU), and/or a lamella formed of at least one high-performance polymer comprising one of polyphenylene sulphone (PPSU), polyether sulphone (PES), and polyetherimide (PEI) and having at least one of a water absorption (DIN 53495) and a heat resistance (DIN 53461) greater than that of polysulphone (PSU).*

With regard to LEHTONEN, Applicant does not dispute that this document relates

to a method of coating a roll using polymers such as PEI, PES and PSU (see Table 1 in Col. 2). However, it is clear that this document is entirely related to and/or unconcerned with a lamella or a headbox containing a lamella.

Accordingly, it is similarly apparent that LEHTONEN, like RODAL and AAPA, contains no disclosure or suggestion with regard to a lamella formed of at least one high-performance polymer wherein *said at least one high-performance polymer comprising at least one of a water absorption (DIN 53495) and a heat resistance (DIN 53461) greater than that of polysulphone (PSU), and/or a lamella formed of at least one high-performance polymer having at least one of a water absorption (DIN 53495) and a heat resistance (DIN 53461) greater than that of polysulphone (PSU), and/or a lamella formed of at least one high-performance polymer comprising one of polyphenylene sulphone (PPSU), polyether sulphone (PES), and polyetherimide (PEI) and having at least one of a water absorption (DIN 53495) and a heat resistance (DIN 53461) greater than that of polysulphone (PSU), and/or a lamella formed of at least one high-performance polymer comprising one of polyphenylene sulphone (PPSU), polyether sulphone (PES), and polyetherimide (PEI) and having at least one of a water absorption (DIN 53495) and a heat resistance (DIN 53461) greater than that of polysulphone (PSU).*

Applicant emphasizes that, while RODAL is at least related to the subject matter of the instant invention, i.e., headbox lamellae, the AAPA and LEHTONEN are not so related,

and none of the applied documents teaches or suggests a lamella formed of at least one high-performance polymer wherein *said at least one high-performance polymer comprising at least one of a water absorption (DIN 53495) and a heat resistance (DIN 53461) greater than that of polysulphone (PSU), and/or a lamella formed of at least one high-performance polymer having at least one of a water absorption (DIN 53495) and a heat resistance (DIN 53461) greater than that of polysulphone (PSU), and/or a lamella formed of at least one high-performance polymer comprising one of polyphenylene sulphone (PPSU), polyether sulphone (PES), and polyetherimide (PEI) and having at least one of a water absorption (DIN 53495) and a heat resistance (DIN 53461) greater than that of polysulphone (PSU), and/or a lamella formed of at least one high-performance polymer comprising one of polyphenylene sulphone (PPSU), polyether sulphone (PES), and polyetherimide (PEI) and having at least one of a water absorption (DIN 53495) and a heat resistance (DIN 53461) greater than that of polysulphone (PSU).*

Thus, Applicant submits that it would not have been apparent to one ordinarily skilled in the art to modify RODAL in view of the AAPA and/or LEHTONEN. Moreover, Applicant submits that the asserted combination of documents is contrary to the express teachings of each applied document, and further submits that the art of record fails to provide the requisite motivation or rationale for combining the art in the manner asserted by the Examiner. In fact, Applicant submits that the only reasonable rationale for combining the

documents in the manner asserted by the Examiner is found in Applicant's own disclosure, which is a use of improper hindsight. Accordingly, the instant rejection should be withdrawn.

Applicant reminds the Examiner of the guidelines identified in M.P.E.P section 2141 which state that "[i]n determining the propriety of the Patent Office case for obviousness in the first instance, it is necessary to ascertain whether or not the reference teachings would appear to be sufficient for one of ordinary skill in the relevant art having the reference before him to make the proposed substitution, combination, or other modification." *In re Linter*, 458 F.2d 1013, 1016, 173 USPQ 560, 562 (CCPA 1972).

As this section clearly indicates, "[o]bviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992)."

Moreover, it has been established that "[t]he mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990) Although a prior art device "may be capable of being modified to run the

way the apparatus is claimed, there must be a suggestion or motivation in the reference to do so." 916 F.2d at 682, 16 USPQ2d at 1432.). See also *In re Fritch*, 972 F.2d 1260, 23 USPQ2d 1780 (Fed. Cir. 1992) (flexible landscape edging device which is conformable to a ground surface of varying slope not suggested by combination of prior art references).

Additionally, it has been held that "[a] statement that modifications of the prior art to meet the claimed invention would have been " well within the ordinary skill of the art at the time the claimed invention was made" because the references relied upon teach that all aspects of the claimed invention were individually known in the art is not sufficient to establish a prima facie case of obviousness without some objective reason to combine the teachings of the references. *Ex parte Levengood*, 28 USPQ2d 1300 (Bd. Pat. App. & Inter. 1993)."

Further, in addition to the fact that the rejection should be reversed, at least for the reason that a fair combination of the above-noted documents would not have resulted in the claimed invention, as recited in the independent claims 1, 26, 53 and 54, the dependent claims provide further limitations based upon which the rejection should be reversed. Thus, Applicant submits that claims 2-16, 20-25, 27-42 and 46-50 are allowable because these claims recite additional features that further define the present invention. In particular, Applicant submits that no proper combination of RODAL in view of AAPA and LEHTONEN teaches or suggests, *inter alia*, said high-performance polymer has a tensile

strength R_m (DIN 53455) in the range of about 50 N/mm² to about 150 N/mm², and a breaking elongation A_s (DIN 53455) in the range of about 20 % to about 80 %, as recited in claim 2; said tensile strength R_m is in a range of about 70 N/mm² to about 110 N/mm², and said breaking elongation A_s is in a range of about 30 % to 60 %, as recited in claim 3; said high-performance polymer has a modulus of elasticity E (DIN 53457, ISO 527-2) in a range of about 500 N/mm² to about 10,000 N/mm², as recited in claim 4; said modulus of elasticity E is in a range of about 1,000 N/mm² to about 5,000 N/mm², as recited in claim 5; said high-performance polymer has an impact strength when notched (ISO 179) of about 40 kJ/m² to about 100 kJ/m², as recited in claim 6; said impact strength is in a range of about 45 kJ/m² to about 90 kJ/m², as recited in claim 7; said high-performance polymer has a moisture acceptance FA (ISO 62) in the range of about 0.05 % to about 2 %, as recited in claim 8; said moisture acceptance FA is in a range of about 0.2 % to about 1.2 %, as recited in claim 9; said high-performance polymer has a heat resistance WB (DIN 53461) in the range of about 120°C to about 230°C, as recited in claim 10; said heat resistance WB is in a range of about 170°C to about 220°C, as recited in claim 11; said high-performance polymer has a low swelling Q in a range of about 0.02 % to about 0.2 %, as recited in claim 12; said low swelling Q is a low linear swelling Q_L , as recited in claim 13; said high-performance polymer comprises at least one of polyphenylene sulphone (PPSU), polyether sulphone (PES), and polyetherimide (PEI), as recited in claim 14; a nozzle, and said lamella includes

a free end arranged to extend to a region of said nozzle, wherein said free end comprises an structure less end region with a dull lamella end having a height less than about 0.4 mm, as recited in claim 15; said height of said dull lamella end is less than about 0.3 mm, as recited in claim 16; said lamella is constructed of said high-performance polymer in a homogenous structure, as recited in claim 20; in combination with a headbox with a sectioned fiber suspension density control, wherein said lamella is located within said headbox, as recited in claim 21; in combination with a headbox designed for a jet speed greater than about 1,500 m/s, as recited in claim 22; in combination with said headbox, the jet speed is greater than about 1,800 m/s, as recited in claim 23; in combination with a multi-layered headbox, wherein said lamella is integrated into said multi-layered headbox as a separating lamella, as recited in claim 24; the web production machine comprises one of a paper, cardboard, and tissue machine, as recited in claim 25; the web production machine comprises one of a paper, cardboard and tissue machine, as recited claim 27; said high-performance polymer has a tensile strength R_m (DIN 53455) in the range of about 50 N/mm² to about 150 N/mm², and a breaking elongation A_s (DIN 53455) in a range of about 20 % to about 80 %, as recited in claim 28; said tensile strength R_m is in a range of about 70 N/mm² to about 110 N/mm², and said breaking elongation A_s is in a range of about 30 % to 60 %, as recited in claim 29; said high-performance polymer has a modulus of elasticity E (DIN 53457, ISO 527-2) in a range of about 500 N/mm² to about 10,000 N/mm², as recited in claim 30; said modulus of

elasticity E is in a range of about 1,000 N/mm² to about 5,000 N/mm², as recited in claim 31; said high-performance polymer has an impact strength when notched (ISO 179) of about 40 kJ/m² to about 100 kJ/m², as recited in claim 32; said impact strength is in a range of about 45 kJ/m² to about 90 kJ/m², as recited in claim 33; said high-performance polymer has a moisture acceptance FA (ISO 62) in the range of about 0.05 % to about 2 %, as recited in claim 34; said moisture acceptance FA is in a range of about 0.2 % to about 1.2 %, as recited in claim 35; said high-performance polymer has a heat resistance WB (DIN 53461) in the range of about 120°C to about 230°C, as recited in claim 36; said heat resistance WB is in a range of about 170°C to about 220°C, as recited in claim 37; said high-performance polymer has a low swelling Q in a range of about 0.02 % to about 0.2 %, as recited in claim 38; said low swelling Q is a low linear swelling Q_L , as recited in claim 39; said high-performance polymer comprises at least one of polyphenylene sulphone (PPSU), polyether sulphone (PES), and polyetherimide (PEI), as recited in claim 40; a jet end, and said lamella includes a free end arranged to extend to a region of said jet end, wherein said free end comprises an structure less end region with a dull lamella end having a height less than about 0.4 mm, as recited in claim 41; said height of said dull lamella end is less than about 0.3 mm, as recited in claim 42; said lamella is constructed of said high-performance polymer in a homogenous structure, as recited in claim 46; a sectioned stock density control, as recited in claim 47; said headbox is sized for a flow speed greater than about 1,500 m/s, as recited in

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claim 48; said flow speed is greater than about 1,800 m/s, as recited in claim 49; and said lamella is arranged as a separating lamella in a multi-layered headbox, as recited in claim 50.

Accordingly, Applicant requests that the Examiner reconsider and withdraw the rejection of claims 1 - 16, 20 - 42, 46 - 50, 53, and 54 under 35 U.S.C. § 103(a) and indicate that these claims are allowable.

New Claims are also Allowable

Applicant submits that the new claims are also allowable over the applied art of record. Specifically, claims 55-56 recite a combination of features which are clearly not disclosed or suggested by the applied art of record. Moreover, claims 57-62 depend from claims which are either allowed/allowable or which are believed to be allowable over the applied art of record.

Accordingly, Applicant respectfully requests consideration of these claims and further request that the above-noted claims be indicated as being allowable.

Comments on Reasons for Allowance

In response to the Statement of Reasons for Allowance set forth in the Office Action, Applicant wishes to clarify the record with respect to the basis for the patentability of the indicated claims in the present application. In this regard, while Applicant does not disagree with the Examiner's indication that certain identified features are not disclosed by the

references, Applicant submits that the claims in the present applicant recite a combination of features, and that the basis for patentability of these claims is based on the totality of the recited features.

CONCLUSION

Applicant respectfully submits that each and every pending claim of the present invention meets the requirements for patentability under 35 U.S.C. § § 112, 102 and 103 and respectfully requests the Examiner to indicate allowance of each and every pending claim of the present invention.

In view of the foregoing, it is submitted that none of the references of record, either taken alone or in any proper combination thereof, anticipate or render obvious Applicant's invention, as recited in each of the pending claims. The applied references of record have been discussed and distinguished, while significant claimed features of the present invention have been pointed out.

Further, any amendments to the claims which have been made in this response and which have not been specifically noted to overcome a rejection based upon the prior art, should be considered to have been made for a purpose unrelated to patentability, and no estoppel should be deemed to attach thereto.

P21325.A10

The Commissioner is hereby authorized to charge any fees necessary for consideration of this amendment to deposit account No. 19-0089.

Respectfully submitted,
Wolfgang RUF et al.



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12/13/03

December 19, 2003
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United States Court of Appeals for the Federal Circuit

02-1107

ALL DENTAL PRODX, LLC and
DMG DENTAL-MATERIAL GESELLSCHAFT MBH,

Plaintiffs-Appellees,

v.

ADVANTAGE DENTAL PRODUCTS, INC.,

Defendant-Appellant.

Jeffrey M. Butler, Kenyon & Kenyon, of New York, New York, argued for plaintiffs-appellees. With him on the brief were Richard L. Mayer, and Jeffrey S. Ginsberg.

Douglas W. Sprinkle, Gifford, Krass, Groh, Sprinkle, Anderson & Citkowski, P.C., of Birmingham, Michigan, argued for defendant-appellant.

Appealed from: United States District Court for the Eastern District of New York

Senior Judge Jacob Mishler

United States Court of Appeals for the Federal Circuit

02-1107

ALL DENTAL PRODX, LLC and DMG DENTAL-MATERIAL GESELLSCHAFT MBH,

Plaintiffs-Appellees,

v.

ADVANTAGE DENTAL PRODUCTS, INC.,

Defendant-Appellant.

DECIDED: October 25, 2002

Before NEWMAN, Circuit Judge, FRIEDMAN, Senior Circuit Judge, and LOURIE, Circuit Judge.

LOURIE, Circuit Judge.

Advantage Dental Products, Inc. appeals from the decision of the United States District Court for the Eastern District of New York granting the declaratory judgment plaintiffs All Dental Prodx, LLC and DMG Dental-Material Gesellschaft mbH (collectively, "All Dental") summary judgment that Advantage Dental's U.S. Patent 5,213,498 is invalid and not infringed by All Dental. All Dental Prodx, LLC v. Advantage Dental Prods., Inc., CV-00-2393,-5785 (E.D.N.Y. Aug. 7, 2001). Because the '498 patent has not been shown to be invalid, we reverse that portion of the judgment. Because there are no genuine issues of material fact that All Dental does not infringe the patent, we affirm that portion of the judgment. Accordingly, we affirm-in-part and reverse-in-part.

BACKGROUND

Advantage owns the '498 patent, which is directed to a method for making a custom dental impression tray. Dentists typically form an impression of a patient's tooth or teeth as part of the process for constructing a crown, cap, or other dental appliance. '498 patent, col. 1, ll. 14-16. The '498 patent describes the prior art impression process as utilizing a suitably sized tray filled with alginate and then placing the tray over the tooth or teeth of which an impression is desired; as the alginate sets, it forms an impression of the area of interest. Id. at ll. 19-26. The invention of the '498 patent improves this process by utilizing less expensive materials and reducing the patient's "chair time." Id. at ll. 31-49. The '498 patent discloses that polycaprolactone, after being heated to the point of pliability (approximately 140°F), can be comfortably molded directly over a person's teeth, without the need for a tray or container. Id. at col. 2, ll. 36-43. After cooling to body temperature, the polycaprolactone mold is rigid, thus forming an impression. Id.

The patent contains two claims, both of which are independent method claims reciting, inter alia, the following step:

- (1) heating an original unidentified mass of thermosetting^{*} material to a predetermined temperature range at which the thermosetting material becomes pliable, . . .

Id. at col. 4, ll. 46-49, 58-61 (emphasis added). The specification does not define the phrase “original unidentified mass,” which was introduced into the claims during prosecution. In the first Office Action, the claims were rejected as unpatentable under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent 4,227,877, issued to Tureaud et al., which discloses an acrylic thermoplastic material shaped anatomically in the form of a dental impression tray that can be directly molded within a person’s mouth. In response to the rejection, the applicant remarked that Tureaud “does not teach or disclose providing the thermosetting material in an original unidentified mass.” Not persuaded, the Examiner again rejected the claims on the same ground, explaining that the “claims do not recite the material in an ‘original unidentified mass’, rather, they simply recite a material.” The applicant later amended the claims to recite that phrase. The Examiner then withdrew the rejection based on Tureaud and rejected the claims as being anticipated by U.S. Patent 4,413,979, issued to Ginsburg et al., which discloses a sheet of moldable thermoplastic material having two ridges to facilitate folding of the sheet into a U-shape to encompass a quadrant of a person’s teeth. The applicant traversed the Ginsburg rejection, explaining that the claimed invention “teaches away from applying the thermosetting material in any specific form, such as the preformed sheets disclosed by Ginsburg.” The Examiner then allowed the claims and the patent thereafter issued.

All Dental sells a TEMP TABS TRUE BLUE product, which is a flat, oval-shaped polycaprolactone tablet. The tablet is heated until pliable and then molded over a person’s tooth where it cools and hardens, thereby making a dental impression. All Dental brought suit seeking a declaratory judgment that the ‘498 patent was invalid and not infringed by its tablet. The court construed the phrase “original unidentified mass” to mean “a mass that does not have specific preformed size and shape.” All Dental Prodx, slip op. at 11. The court granted All Dental summary judgment of noninfringement apparently because the All Dental tablets have a specific preformed shape and size. Id. The court also held both claims of the patent invalid under § 112, ¶¶ 1 and 2. Id. Finding no definition of the phrase “original unidentified mass” in either the patent specification or the prosecution history, the court concluded that “a person skilled in the art would not be able to understand the bounds of the claims.” Id. The court also concluded that the patent “lacks a written description of the invention.” Id.

Advantage Dental appeals from the district court’s grant of summary judgment. We have jurisdiction under 28 U.S.C. § 1295(a)(1).

DISCUSSION

We review a district court's grant of summary judgment de novo, reapplying the same standard used by the district court. Ethicon Endo-Surgery, Inc. v. United States Surgical Corp., 149 F.3d 1309, 1315, 47 USPQ2d 1272, 1275 (Fed. Cir. 1998). Summary judgment is appropriate "if the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to a judgment as a matter of law." Fed. R. Civ. P. 56(c). "The evidence of the nonmovant is to be believed, and all justifiable inferences are to be drawn in his favor." Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 255 (1986).

A determination of patent infringement requires a two-step analysis. "First, the court determines the scope and meaning of the patent claims asserted . . . [Second,] the properly construed claims are compared to the allegedly infringing device." Cybor Corp. v. FAS Techs., Inc., 138 F.3d 1448, 1454, 46 USPQ2d 1169, 1172 (Fed. Cir. 1998) (en banc) (citations omitted). Step one, claim construction, is an issue of law, Markman v. Westview Instruments, Inc., 52 F.3d 967, 970-71, 34 USPQ2d 1321, 1322 (Fed. Cir. 1995) (en banc), aff'd, 517 U.S. 370 (1996), that we review de novo, Cybor, 138 F.3d at 1456, 46 USPQ2d at 1172. Step two, comparison of the claim to the accused device, requires a determination that every claim limitation or its equivalent be found in the accused device. Warner-Jenkinson Co. v. Hilton Davis Chem. Co., 520 U.S. 17, 29 (1997). Those determinations are questions of fact. Bai v. L & L Wings, Inc., 160 F.3d 1350, 1353, 48 USPQ2d 1674, 1676 (Fed. Cir. 1998).

The question whether the subject matter of a patent claim fails to meet the written description requirement of 35 U.S.C. § 112, ¶ 1 is a question of fact. Vas-Cath Inc. v. Mahurkar, 935 F.2d 1555, 1563, 19 USPQ2d 1111, 1116 (Fed. Cir. 1991). A determination that a patent claim is invalid for failure to meet the definiteness requirement of 35 U.S.C. § 112, ¶ 2 is "a legal conclusion that is drawn from the court's performance of its duty as the construer of patent claims[, and] therefore, like claim construction, is a question of law that we review de novo." Atmel Corp. v. Info. Storage Devices, Inc., 198 F.3d 1374, 1378, 53 USPQ2d 1225, 1227 (Fed. Cir. 1999) (citing Personalized Media Communications, LLC v. Int'l Trade Comm'n, 161 F.3d 696, 705, 48 USPQ2d 1880, 1888 (Fed. Cir. 1998)).

Advantage argues that the district court improperly concluded that the '498 patent fails to satisfy both paragraphs of 35 U.S.C. § 112, without providing reasoning for those conclusions. As to the adequacy of

the written description, Advantage contends that, while the phrase “original unidentified mass” does not literally appear in the specification, one skilled in the art would recognize and know how to practice the claimed invention using “an original unidentified mass” upon reading the specification. As to definiteness, Advantage contends that, while the meaning of the phrase “original unidentified mass” is neither facially apparent nor defined in the patent specification, the prosecution history clarifies the phrase to mean any shape different from a complete impression tray. On the issue of infringement, Advantage argues, based upon its proposed construction of the phrase “original unidentified mass,” that All Dental infringes the patent because its tablets are clearly not in the form of a dental impression tray.

All Dental responds that the “original unidentified mass” language does not appear anywhere in the originally filed patent application, and that it was new matter added during prosecution, arguably in violation of the statute. While acknowledging that the specification need not provide *in haec verba* support for the language added to the claim, All Dental argues that the originally filed disclosure did not allow one skilled in the art to immediately discern that an “original unidentified mass” limitation was part of the definition of the invention. All Dental also contends that the applicant did not properly act as his own lexicographer in defining the meaning of the phrase “original unidentified mass,” as he failed to clearly define the phrase. All Dental further contends that if the phrase “original unidentified mass” is to have any meaning at all, then it must be that the material lacks a specific preformed shape and size, as the district court concluded. All Dental asserts that its accused tablets do not infringe the '498 patent because they clearly have a preformed shape, *viz.*, a generally flat, oblong shape.

We agree with Advantage that there are no genuine issues of material fact concerning whether its patent claims comply with the written description requirement of section 112, first paragraph. While the contested language is not a model of clarity, it is also fairly simple and intelligible, capable of being understood in the context of the patent specification. It is thus reasonably clear what the invention is and that the patent specification conveys that meaning.

Section 112, first paragraph, states, *inter alia*: “The specification shall contain a written description of the invention.” 35 U.S.C. § 112, ¶ 1 (2000). In order to comply with the written description requirement, the specification “need not describe the claimed subject matter in exactly the same terms as used in the claims; it must simply indicate to persons skilled in the art that as of the [filing] date the applicant had invented what

is now claimed.” Eiselstein v. Frank, 52 F.3d 1035, 1038, 34 USPQ2d 1467, 1470 (Fed. Cir. 1995) (citing Vas-Cath, 935 F.2d at 1562, 19 USPQ2d at 1115, and In re Wertheim, 541 F.2d 257, 265, 191 USPQ 90, 98 (CCPA 1976)).

The application for the '498 patent as originally filed did not contain the phrase “original unidentified mass”; indeed, there is no mention of the starting material’s shape or form anywhere in the patent specification. However, the failure of the specification to specifically mention a limitation that later appears in the claims is not a fatal one when one skilled in the art would recognize upon reading the specification that the new language reflects what the specification shows has been invented. See Eiselstein, 52 F.3d at 1039, 34 USPQ2d at 1470. Here, the invention involves heating a mass of thermoplastic material that lacks an identifiable form. That invention is described in the specification, albeit not in haec verba. It is also clear what the invention is not. It does not involve heating a thermoplastic mass having an identifiable form or shape. We therefore conclude that there are no genuine issues of material fact that the specification describes the claimed invention within the meaning of the statute. Thus, summary judgment of invalidity for failure to satisfy the written description requirement was erroneous and is therefore reversed.

We also agree with Advantage that its claims comply with the definiteness requirement of section 112, second paragraph. That section states: “The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.” The primary purpose of the definiteness requirement is to ensure that the claims are written in such a way that they give notice to the public of the extent of the legal protection afforded by the patent, so that interested members of the public, e.g., competitors of the patent owner, can determine whether or not they infringe. Warner-Jenkinson, 520 U.S. at 28-29. That determination requires a construction of the claims according to the familiar canons of claim construction. Only after a thorough attempt to understand the meaning of a claim has failed to resolve material ambiguities can one conclude that the claim is invalid for indefiniteness. Foremost among the tools of claim construction is of course the claim language itself, but other portions of the intrinsic evidence are clearly relevant, including the patent specification and prosecution history. See Standard Oil Co. v. Am. Cyanamid Co., 774 F.2d 448, 452, 227 USPQ 293, 296 (Fed. Cir. 1985) (“The specification is, thus, the primary basis for construing the claims. . . . [T]he prosecution history (or file wrapper) limits the interpretation of claims so as to exclude any interpretation that may have been

disclaimed or disavowed during prosecution in order to obtain claim allowance.”). The prosecution history can thus be relied upon to clarify the claim meaning and hence provide definiteness. Tex. Instruments Inc. v. Int’l Trade Comm’n, 871 F.2d 1054, 1063, 10 USPQ2d 1257, 1263-64 (Fed. Cir. 1989) (“The public is entitled to know the scope of the claims but must look to both the patent specification and the prosecution history, especially when there is doubt concerning the scope of the claims.” (citing McGill Inc. v. John Zink Co., 736 F.2d 666, 221 USPQ 944 (Fed. Cir. 1984))).

In this case, the prosecution history aids in clarifying the meaning of the claim phrase “original unidentified mass.” The patent applicant twice distinguished his invention over the prior art on the basis of that limitation. First, the applicant distinguished his invention over Tureaud’s anatomically formed tray shape as not being an “original unidentified mass.” Secondly, the applicant distinguished his invention over Ginsburg’s preformed sheets of thermoplastic material as “teach[ing] away from applying the thermosetting material in any specific form.” Each of those statements made during prosecution disclaims a specific shape. Moreover, the second statement amounts to a characterization of the “original unidentified mass” limitation as not embracing “any specific form.” Advantage’s argument that the phrase “original unidentified mass” means any shape other than a complete dental tray gives effect to only the first prosecution statement while ignoring the second. Giving proper effect to both statements and the specification’s clear indication of the nature of the invention, we conclude that the phrase means exactly what the district court said it means: “a mass that does not have a specific preformed size and shape.” All Dental Prodx, slip op. at 11. Where we differ from the district court is on whether the phrase as so construed is indefinite. The meaning of the phrase “original unidentified mass,” arrived at after reviewing the specification and consulting the prosecution history, is indeed definite and clear. Thus, the district court construed the phrase correctly, yet erred in concluding that the phrase was indefinite.

Finally, we agree with All Dental that it is entitled to summary judgment of noninfringement. Our conclusion follows from the construction of the phrase “original unidentified mass.” All Dental’s tablets clearly have a preformed shape; it is uncontested that they are flat, oblong-shaped tablets. Advantage’s infringement assertions therefore fail to raise any genuine issues of material fact, and the court’s grant of summary judgment of noninfringement is affirmed.

CONCLUSION

The district court erred in granting summary judgment that the '498 patent claims fail to satisfy the requirements of 35 U.S.C. § 112, and we reverse that decision. However, the court correctly granted summary judgment that Advantage's accused product does not infringe the patent, and we affirm that decision. Accordingly, we

AFFIRM-IN-PART and REVERSE-IN-PART.

COSTS

Costs to All Dental.

* At oral argument, counsel for Advantage conceded that the term "thermosetting" should have been "thermoplastic" in order to correctly describe a material that becomes pliable on heating. We will therefore use the term "thermoplastic" further in this opinion.